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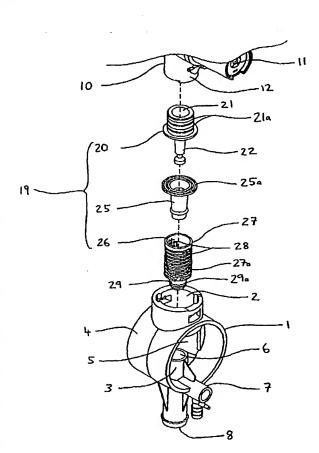
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[Continued on next page]

(54) Title: EDUCTOR



(57) Abstract: An eductor (1) having an air gap (5), a venturi structure (3), and a non-return valve (19) located in the air gap (5). The non-return valve is removable and allows the eductor to be operated as an air gap eductor or a non-return valve eductor. A non-return valve cartridge (19) for installing in to the air gap (5) of an air gap eductor (1), so that the eductor can be operated as a non-return valve eductor. A method of retrofitting a non-return valve (19) in an air gap eductor (1).



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Electronic data base consulted during the international search (name of data base and, where practical, search terms used)								
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C. DOCUMI	ENTS CONSIDERED TO BE RELEVANT							
Category °	Citation of document, with indication, where appropriate, of the rele	vant passages	Relevant to claim No.					
A	US 5 522 419 A (SAND WILLIAM F) 4 June 1996 (1996-06-04) the whole document	1,9						
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Patent document cited in search report		Publication date		Patent family member(s)	Publication date
US 5522419	A	04-06-1996	AU EP WO	5966296 A 0835353 A1 9701681 A1	30-01-1997 15-04-1998 16-01-1997